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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/767,600

01/30/2004

Norbert E. Yankielun

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HUMPHREYS ENGINEER CENTER SUPPORT ACTIVITY
ATTN: CEHEC-OC
7701 TELEGRAPH ROAD
ALEXANDRIA, VA 22315-3860

EXAMINER

LU, TONY W

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/767,600	Applicant(s) YANKIELUN, NORBERT E.	
	Examiner Tony Lu	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/30/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

Claims 1,2 and 19 are objected to because of the following informalities:

As for claim 1, on line 14, the antecedent basis for "said data" is unclear.

As for claim 2, the antecedent basis for "said at least one change" is unclear.

As for claim 19, the antecedent basis for "said optical receiver" is unclear.

Appropriate corrections and clarifications are required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,4,7,9,14,15,22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Sayka et al US5743135.

With respect to claims 1,2,4,7,9,11,14,15,22 and 23, Sayka et al disclose a system(300) for monitoring and alerting changes by measuring optical reflections from a media(308) adjacent a part of said system comprising: an array of optical fibers(351-356), arranged vertically, attached to a support(360, a rigid tube), each optical fiber in said array of optical fibers having an end exposed orthogonal to said media, wherein optical signals(from 320) are maintained on each said optical fiber during the operation of said system, and wherein said array of optical fibers is configured to provide a pre-

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specified level of detail regarding said changes(col.5); at least one source(320, LED emits red light) in operable communication with each said optical fiber during the operation of said system; at least one optical coupler(341-346) is provided to connect each said optical fibers to said at least one source(320) and/or photodetectors(380, optical receiver); and at least one sub-system(320,330,370,380,390,392,394) in operable communication with each said optical fiber during the operation of said system, wherein said sub-system processes data obtained from said array of optical fibers to provide real time alerting to said changes, and wherein said sub-system records and display said change(col.4-5); wherein the sub-system includes a processing and control device(390) connected to a display(392).

Sayka et al's system inherently performs claimed method step(claim23).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3,5,6,8-13, 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayka et al US5743135.

With respect to claim 3, per the above discussion, Sayka et al fail to teach a multiplexer.

Although Sayka et al lack a clear inclusion of a multiplexer, the use of a known an available multiplexer would have been obvious to one of ordinary skill in the optic

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fiber art in order to provide more control to the receiving and/or processing of the signals.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sayka by utilizing a multiplexer in order to provide a better management of the light and/or signals transmitted through the optical fibers.

With respect to claim 5, per the above discussion, Sayka et al fail to teach said optical fibers are plastic.

Although Sayka et al lack a clear teaching of said optical fibers are plastic, selecting a specific type of materials for the optical fibers would have been obvious to one of ordinary skill in the art in order to provide desired performances of the optical fibers.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sayka et al accordingly in order to provide easier mounting and/or installing of the optical fibers.

With respect to claim 6, per the above discussion, Sayka et al fail to teach said optical fibers have an index of refraction of approximately 1.492.

Although Sayka et al lack a clear teaching of said optical fibers have an index of refraction of approximately 1.492, selecting a specific index of refraction for an optical fiber would have been obvious to one of ordinary skill in the optics art in order to provide more control to the modulation of the light and/or signal transmitted through the optical fibers.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sayka et al accordingly in order to provide more control to the modulation of the light and/or signal in the optical fibers.

With respect to claims 8 and 9, per the above discussion, note that Sayka et al disclose the light reaching the photodetectors can be frequency filtered in order to enhance photodetectors' sensitivity but fail to teach a high pass filter and an amplifier.

Although Sayka et al lack a clear inclusion of a high pass filter and an amplifier, using a high pass filter in order to filter out the unwanted signal and/or unwanted components of a signal and an amplifier to increase an output signal to a desired level would have been obvious to one of ordinary skill in the electronic art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sayka et al accordingly with inclusions of a high pass filter and an amplifier in order to provide a more accurate measurement results from the system.

With respect to claims 10 and 11, per the above discussion, Sayka et al fail to teach said sub-system comprises a power meter.

Although Sayka et al lack a clear inclusion of a power meter, using a known and available power meter to indicate the power of said sub-system would have been obvious to one of ordinary skill in the electronic art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sayka et al accordingly with an inclusion of a power meter in order monitor the performance of the sub-system.

With respect to claim 12, per the above discussion, Sayka et al fail to teach an umbilical cable.

Although Sayka et al lack a clear inclusion of an umbilical cable, the use of a known and available umbilical cable would have been obvious to one of ordinary skill in the art in order to provide a stronger and/or more durable connecting means to connect devices and/or components of the system.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sayka et al accordingly in order to provide a long life and/or durable connecting means.

With respect to claim 13, per the above discussion, Sayka et al fail to teach an anchoring device.

Although Sayka et al lack a clear inclusion of an anchoring device, the use of an anchoring device to prevent vibrations or displacement of the system in order to provide better measurements and/or accurate results would have been obvious to one of ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sayka et al with an inclusion of an anchoring device to prevent any movements and/or shifting of the system in order to provide a more reliable measurement results from the system.

With respect to claims 16-18, per the above discussion, Sayka et al fail to teach said source is energized using a cyclical signal.

Although Sayka et al lack a clear teaching of said source is energized using a cyclical signal, energizing a source by using a cyclical signal would have been obvious to one of ordinary skill in the art in order to provide more control to the source.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sayka et al accordingly in order to provide more control to the performance of the source. Further citations in claim 17 regarding square wave and in claim 18 regarding three KHz cycle would have been obvious for similar reasons set forth in the above discussion.

With respect to claim 19, although Sayka et al lack a clear teaching of said photodetector is selected from a group consisting of a phototransistor and/or a photodiode, selecting a specific type of photodetectors would have been obvious to one of ordinary skill in the art in order to provide a long lasting life of performances to the photodetector.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sayka et al accordingly in order to provide a compact design of the system.

With respect to claim 20, per the above discussion, although Sayka et al disclose a microprocessor(390) but lack a clear inclusion of at least one multi-channel multiplexed data acquisition printed circuit board incorporating at least one analog-to-digital convert; and software loadable on a personal computer for processing said data, it would have been inherently included, however, if not, it would have been obvious to

one of ordinary skill in the art to modify Sayka et al accordingly in order to provide sufficient mean to process and/or manipulate signal and/or data obtained by the system.

With respect to claim 21, per the above discussion, Sayka et al fail to teach said coupler is a four-port optical splitter.

Although Sayka et al fail to teach said coupler is a four-port optical splitter, selecting a specific type of couplers would have been obvious to one of ordinary skill in the art in order to provide a desired distribution of the signals.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sayka et al accordingly in order to provide more control to the destinations of the signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Lu whose telephone number is 5712728448. The examiner can normally be reached on M-F 9:00am- 6:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 5712722328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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